UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,712	11/14/2003	Hiu-Ming Eric Lam	MSFT125569	2286

38991 7590 09/16/2008

CHRISTENSEN, O'CONNOR, JOHNSON, KINDNESS, PLLC
1420 FIFTH AVENUE
SUITE 2800
SEATTLE, WA 98101-2347

EXAMINER	
GORTAYO, DANGELINO N	
ART UNIT	PAPER NUMBER
2168	

MAIL DATE	DELIVERY MODE
09/16/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/713,712	LAM ET AL.	
	Examiner	Art Unit	
	DANGELINO N. GORTAYO	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/3/2008 has been entered.

Response to Amendment

2. In the amendment filed on 6/3/2008, claims 1, 13, and 23 have been amended. The currently pending claims considered below are Claims 1-31.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 1-14 and 16-23 are rejected under 35 U.S.C. 103(a) as being anticipated by Chang et al. ("Chang" US Patent 6,578,046) in view of Georgalas et al. (US Publication 2005/0216498 A1)

As per claim 1, Chang teaches "at least one data store, each data store comprising a different data store type configured to store at least one data store object;" (Figure 3, Figure 6, column 8 lines 62-67, column 10 lines 13-21, wherein different datastores comprise different properties and objects stored)

"an object-oriented heterogeneous data store interface" (Figure 10 reference 37, column 4 line 54—column 5 line 18, column 13 lines 25-41, column 41 line 56 - column 42 line 4, wherein a federated collection provides a common object model for different data stores)

comprising: a data store component corresponding to each data store;" (column 9 lines 40-44, column 10 lines 27-58, wherein datastore objects are represented).

the data store component logically related to an identity service component, (column 9 lines 40-44, column 10 lines 1-8, column 38 lines 58-65, wherein query objects are created) the data store component being associated with a data store administrator group, the data store administrator group having the ability to add and remove permissions to access the data store component, (column 7 lines 26-53, column 29 line 31 – column 31 line 54, column 32 lines 33-62, column 35 lines 10-22, wherein a user with a server package can be assigned as an administrator and can determine authentication groupings and access based on provided information) the identity service component including a directory of each data store component; (column 10 lines 1-8,

lines 31-66, column 39 lines 17-34, wherein the information for query objects for specific data stores is gathered into a collection for a digital library defining the interface with a collection of objects)

"an enterprise component corresponding to the data store component, the enterprise component referencing the data store component by utilizing the directory included in the identity service component;" (column 11 lines 48-55, column 12 lines 5-34, column 39 lines 36-42, wherein the collections contain a folder or parts to access the specific objects for specific data stores, accessed through mappings)

"the enterprise component: referencing at least one identity service component;" (column 41 line 57—column 42 line 4, column 42 lines 30-45, wherein the user utilizes specific method to access the collection)

"configure to load missing identity service components, unload unneeded identity service components, and query for identity component updates" (column 8 line 63 – column 9 line 34, column 11 line 56 – column 12 line 34, wherein members in a collection can be added, removed, or updated)

"a query component comprising a query specification attribute;" (column 9 lines 45-53, column 12 line 36-67, "query evaluator")

"and a provider interface comprising a query component behavior specification specifying a query behavior with said query specification attribute of said query component;" (column 17 line 47 – column 18 line 34, "query manager", "query base")

"and for each data store, a provider plug-in to the object-oriented heterogeneous data store interface, and each provider plug-in comprises at least one provider

component configured with a behavior conforming to the query component behavior specification of the provider interface." (column 9 lines 40-44, column 18 lines 37-43, column 31 lines 55-65, column 38 line 66 – column 39 lines 35, column 42 lines 20-44, wherein each datastore preserves its own mappings through datastore classes and query classes found in the federated datastore and analyzed in the federated collection)

Chang does not specifically disclose an enterprise administrator group having the ability to grant, view, change, and remove access permissions for each data store user associated with an enterprise component.

Georgalas teaches an enterprise administrator group having the ability to grant, view, change, and remove access permissions for each data store user associated with an enterprise component (Figure 1, paragraphs 0056, 0057, 0058, 0075, 0076, 0084, 0099, 0101, wherein users can be assigned as administrators that control access and administrative policies for heterogeneous database access).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to combine Chang's method of searching multiple heterogeneous datastores with heterogeneous data types through a data model with Georgalas' method of assigning users to be configurators and administrators that can change access policies when accessing heterogeneous databases. This gives the user the ability to restrict and control access of heterogeneous databases to only trusted users. The motivation for doing so would be handle change in a system of heterogeneous databases (paragraph 0006)

As per claim 2, Chang teaches "the data store component comprising a commit component behavior specification specifying a commit behavior with a data store object component parameter," (column 31 lines 42-43)

"the data store object component comprising: a get value component behavior specification specifying a get value behavior with a data object attribute index parameter;" (column 31 lines 55-65)

"a get object component behavior specification specifying a get object behavior with a data object attribute index parameter;" (column 33 lines 4-11)

"and a get list component behavior specification specifying a get list behavior with a data object attribute index parameter;" (column 33 lines 11-20)

"and each provider plug-in further comprises at least one provider object component, and each provider object component is configured with: a get value behavior conforming with the get value component behavior specification of the provider object interface;" (column 40 lines 43-53)

"a get object behavior conforming with the get object component behavior specification of the provider object interface;" (column 41 lines 11-17)

"a get list behavior conforming with the get list component behavior specification of the provider object interface;" (column 41 lines 19-27)

"and an index of attributes of at least one of said at least one data object." (column 33 lines 55-60, column 34 lines 17-25)

As per claim 3, Chang teaches "the provider object interface further configured with: a set value component behavior specification specifying a set value behavior with a data object attribute index parameter;" (column 22 lines 24-38)

"a set null value component behavior specification specifying a set null value behavior with a data object attribute index parameter;" (column 24 lines 25-27)

"a null value test component behavior specification specifying a null value test behavior with a data object attribute index parameter;" (column 24 lines 28-29)

"and a populated value test component behavior specification specifying a populated value test behavior with a data object attribute index parameter." (column 23 lines 63-64, column 24 lines 54-55)

As per claim 4, Chang teaches "the object-oriented heterogeneous data store interface further comprises at least one data store object component, wherein each data store object component corresponding to a data store object;" (column 9 lines 40-44, column 10 lines 27-58)

"and the provider interface further comprises: a connect component behavior specification specifying a connect behavior;" (column 29 lines 32-37))

"a disconnect component behavior specification specifying a disconnect behavior;" (column 29 lines 38-39)

"and a commit component behavior specification specifying a commit behavior with a data store object component parameter." (column 31 lines 42-43)

As per claim 5, Chang teaches "each data store object component comprises a data store operation attribute;" (column 28 lines 41-47)

"each provider component is further configured with a commit behavior conforming to the commit component behavior specification of the provider interface;" (column 31 lines 42-43)

"and the data store operation attribute of the data store object component parameter of the commit behavior of the provider component indicates a data store operation to occur during the commit." (column 41 lines 46-47)

As per claim 6, Chang teaches "the object-oriented heterogeneous data store interface further comprises: for each data store object stored in each data store, a data store object component; and a data store component corresponding to each data store configured to provide a subset of data store object components in response to the query component." (column 38 line 57 – column 39 line 9)

As per claim 7, Chang teaches "the query component is configured with: an add expression behavior having: at least one query term parameter;" (column 18 lines 37-55)

"and a query operator parameter;" (column 18 line 58 – column 19 line 15)

"and an add conjunction behavior having a query conjunction parameter." (column 20 lines 58-63)

As per claim 8, Chang teaches "the add expression behavior of the query component further has a query component parameter." (column 20 line 64 – column 21 line 15)

As per claim 9, Chang teaches "each data store object stored in said at least one data store comprises at least one data object attribute;" (column 10 lines 13-21)

"the object-oriented heterogeneous data store interface further comprises a data store object component corresponding to each data store object stored in each data store;" (column 9 lines 40-44, column 10 lines 27-58)

"and each data store object component of said object-oriented heterogeneous data store interface comprises a field list attribute comprising a field specification for at least one data object attribute of the data store object corresponding to the data store object component, the field specification comprising a defer property specifying that retrieval of the data object attribute is deferrable." (column 12 lines 24-44)

As per claim 10, Chang teaches "said at least one data store object attribute comprises a data object attribute referencing a list of data store objects stored in said at least one data store;" (column 11 lines 48-55)

"and the field specification for the data object attribute referencing the list of data store objects further comprises a schema path property for retrieving said list of data store objects from said data store specifying, at least: a type of data object in the list of data objects;" (column 11 lines 58-63)

"a first attribute of each data object in the list of data objects;" (column 13 lines 42-59)

"a second attribute of the data object corresponding to the data store object component containing the field specification; " (column 13 lines 60-67)

"and a relationship between the first attribute and the second attribute." (column 14 lines 33-60)

As per claim 11, Chang teaches "the schema path property specifies: more than one type of data object;" (column 41 lines 11-16)

"and at least one relationship between attributes of each data store object." (column 39 lines 37-52, column 41 lines 11-16)

As per claim 12, Chang teaches "a data store object source code generator configured to generate object-oriented programming language source code for each data store object component of the object-oriented heterogeneous data store interface." (column 20 line 58 – column 21 line 13)

As per claim 13, Chang teaches "A computer readable storage medium having stored thereon computer-executable instructions for performing a method for a query component to specify a particular subset of a data store component" (see Abstract)

"comprising: instantiating a first query component in a plurality of query components of an object-oriented heterogeneous data store interface," (column 9 lines 40-53, column 12 line 36-67, wherein a query evaluator processes queries)

"the object-oriented heterogeneous data store interface" (Figure 10 reference 37, column 4 line 54—column 5 line 18, column 13 lines 25-41, column 41 line 56 - column 42 line 4, wherein a federated collection provides a common object model for different data stores)

comprising: a data store component corresponding to each data store;" (column 9 lines 40-44, column 10 lines 27-58, wherein datastore objects are represented).

the data store component logically related to an identity service component, (column 9 lines 40-44, column 10 lines 1-8, column 38 lines 58-65, wherein query objects are created) the data store component being associated with a data store administrator group, the data store administrator group having the ability to add and remove permissions to access the data store component, (column 7 lines 26-53, column 29 line 31 – column 31 line 54, column 32 lines 33-62, column 35 lines 10-22, wherein a user with a server package can be assigned as an administrator and can determine authentication groupings and access based on provided information) the identity service component including a directory of each data store component; (column 10 lines 1-8, lines 31-66, column 39 lines 17-34, wherein the information for query objects for specific data stores is gathered into a collection for a digital library defining the interface with a collection of objects)

"an enterprise component corresponding to the data store component, the enterprise component referencing the data store component by utilizing the directory included in the identity service component;" (column 11 lines 48-55, column 12 lines 5-34, column 39 lines 36-42, wherein the collections contain a folder or parts to access the specific objects for specific data stores, accessed through mappings)

"the enterprise component: referencing at least one identity service component;" (column 41 line 57—column 42 line 4, column 42 lines 30-45, wherein the user utilizes specific method to access the collection)

"configure to load missing identity service components, unload unneeded identity service components, and query for identity component updates" (column 8 line 63 –

column 9 line 34, column 11 line 56 – column 12 line 34, wherein members in a collection can be added, removed, or updated)

"a query component comprising a query specification attribute;" (column 9 lines 45-53, column 12 line 36-67, "query evaluator")

"and a provider interface comprising a query component behavior specification specifying a query behavior with said query specification attribute of said query component;" (column 17 line 47 – column 18 line 34, "query manager", "query base")

"each query component of the object-oriented heterogeneous data store interface having an add expression behavior," (column 12 lines 17-23, column 22 lines 24-38, wherein a query class contains the ability to add data elements and items related to objects)

"the add expression behavior having: at least one query term parameter;" (column 12 line 57-64, column 18 lines 12-55, wherein a query is created)

"and a query operator parameter;" (column 17 lines 47-60, column 18 lines 12-18)

"adding a query expression to the first query component with the add expression behavior of the first query component;" (column 12 line 57 – column 13 line 24, wherein elements are added to the query)

"and providing the first query component to a data store component of the object-oriented heterogeneous data store interface." (column 8 lines 26-40, column 18 lines 37-44, wherein the query is for one specific datastore)

Chang does not specifically disclose an enterprise administrator group having the ability to grant, view, change, and remove access permissions for each data store user associated with an enterprise component.

Georgalas teaches an enterprise administrator group having the ability to grant, view, change, and remove access permissions for each data store user associated with an enterprise component (Figure 1, paragraphs 0056, 0057, 0058, 0075, 0076, 0084, 0099, 0101, wherein users can be assigned as administrators that control access and administrative policies for heterogeneous database access).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to combine Chang's method of searching multiple heterogeneous datastores with heterogeneous data types through a data model with Georgalas' method of assigning users to be configurators and administrators that can change access policies when accessing heterogeneous databases. This gives the user the ability to restrict and control access of heterogeneous databases to only trusted users. The motivation for doing so would be handle change in a system of heterogeneous databases (paragraph 0006)

As per claim 14, Chang teaches "each query component further has: a query conjunction behavior;" (column 20 lines 58-63)

"a begin group behavior; and an end group behavior" (column 17 lines 26-35)

"and the method further comprises: adding a query conjunction to the first query component with the add conjunction behavior of the first query component;" (column 20 line 63 – column 21 line 3)

"adding a begin group to the first query component with the begin group behavior of the first query component; and adding an end group to the first query component with the end group behavior of the first query component." (column 21 lines 4-30)

As per claim 16, Chang teaches "the method further comprises instantiating a second query component of the object-oriented heterogeneous data store interface;" (column 28 line 41 – column 29 line 30)

"and the query expression added to the first query component comprises the second query component." (column 28 line 41 – column 29 line 30)

As per claim 17, Chang teaches "each query component specifies a subset of enterprise data objects;" (column 38 lines 18-41)

"and the query expression added to the first query component specifies a set of values, the set of values comprising values of a specified attribute of the subset of enterprise data objects specified by the second query component." (column 39 line 52 – column 40 line 28)

As per claim 18, Chang teaches "one of a set of valid query operators is provided as the query operator parameter of the add expression behavior of each query component of the object-oriented heterogeneous data store interface;" (column 22 lines 25-38)

"and the set of valid query operators comprises: an attribute contains (Contains) query operator that tests if a data object attribute specified by a first query term contains a value specified by a second query term;" (column 21 lines 3-30)

"a value within (Within) query operator that tests if a value specified by the first query term is within a set of values specified by at least one subsequent query term;" (column 24 lines 30-31)

"a Has query operator that tests if a data object specified by the first query term has at least one of a set of data objects specified by said at least one subsequent query term;" (column 25 lines 7-9)

"and a null test (IsNull) query operator that tests if the data object attribute specified by the first query term has a null value." (column 24 lines 28-29)

As per claim 19, Chang teaches "each query component specifies a subset of enterprise data objects;" (column 17 lines 48 – column 18 line 9)

"and the method further comprises receiving a set of data store object components of the object-oriented heterogeneous data store interface from the data store component as a result of providing the first query component to the data store component," (column 39 lines 16-34)

"each data store object component in the set of data store object components corresponding to an enterprise data object in the subset of enterprise data objects specified by the first query component." (column 40 lines 43-53)

As per claim 20, Chang teaches "each data store object component comprises a field list attribute comprising a field specification for at least one data object attribute of the data object corresponding to the data store object component, the field specification comprising a defer property specifying that retrieval of the data object attribute is deferrable." (column 12 lines 24-44)

As per claim 21, Chang teaches "said at least one data object attribute comprises a data object attribute referencing a list of data objects stored in said at least one data store;" (column 11 lines 48-55)

"and the field specification for the data object attribute referencing the list of data objects further comprises a schema path property specifying, at least: a type of data object in the list of data objects;" (column 11 lines 58-63)

"a first attribute of each data object in the list of data objects;" (column 13 lines 42-59)

"a second attribute of the data object corresponding to the data store object component containing the field specification; " (column 13 lines 60-67)

"and a relationship between the first attribute and the second attribute." (column 14 lines 33-60)

As per claim 22, Chang teaches "the schema path property specifies: more than one type of data object;" (column 41 lines 11-16)

"and at least one relationship between attributes of each data object." (column 39 lines 37-52, column 41 lines 11-16)

As per claim 23, Chang teaches "a computerized system" (see Abstract)

"comprising: a plurality of data stores, each data store comprising a different data store type, each data store capable of storing at least one data store object;" (Figure 3, Figure 6, column 8 lines 62-67, column 10 lines 13-21, wherein different datastores comprise different properties and objects stored)

"an object-oriented heterogeneous data store interface" (Figure 10 reference 37, column 4 line 54—column 5 line 18, column 13 lines 25-41, column 41 line 56 - column 42 line 4, wherein a federated collection provides a common object model for different data stores)

"comprising at least one data store object component corresponding to at least one of said at least one data store object stored in said at least one data store;" (column 9 lines 40-44, column 10 lines 27-58, wherein datastore objects are represented)

"an identity service component including a directory of each data store component;" (column 10 lines 1-8, lines 31-66, column 39 lines 17-34, wherein the information for query objects for specific data stores is gathered into a collection for a digital library defining the interface with a collection of objects)

the data store component logically related to an identity service component, (column 9 lines 40-44, column 10 lines 1-8, column 38 lines 58-65, wherein query objects are created) the data store component being associated with a data store administrator group, the data store administrator group having the ability to add and remove permissions to access the data store component, (column 7 lines 26-53, column 29 line 31 – column 31 line 54, column 32 lines 33-62, column 35 lines 10-22, wherein a user with a server package can be assigned as an administrator and can determine authentication groupings and access based on provided information) the identity service component including a directory of each data store component, wherein the data store objects referenced by the identity service component become logically related; (column 10 lines 1-8, lines 31-66, column 39 lines 17-34, wherein the information for query

objects for specific data stores is gathered into a collection for a digital library defining the interface with a collection of objects)

“an enterprise component corresponding to the data store component, the enterprise component referencing the data store component by utilizing the directory included in the identity service component;” (column 11 lines 48-55, column 12 lines 5-34, column 39 lines 36-42, wherein the collections contain a folder or parts to access the specific objects for specific data stores, accessed through mappings)

referencing at least one identity service component;" (column 41 line 57—column 42 line 4, column 42 lines 30-45, wherein the user utilizes specific method to access the collection)

“configure to load missing identity service components, unload unneeded identity service components, and query for identity component updates” (column 8 line 63 – column 9 line 34, column 11 line 56 – column 12 line 34, wherein members in a collection can be added, removed, or updated)

“a query component comprising a query specification attribute;” (column 9 lines 45-53, column 12 line 36-67, “query evaluator”)

“and a provider interface comprising a query component behavior specification specifying a query behavior with said query specification attribute of said query component;” (column 17 line 47 – column 18 line 34, “query manager”, “query base”)

“a data store object design graphical user interface configured to enable building of a graphical representation of each data object corresponding to at least one data store object component of the object-oriented heterogeneous data store interface;”

(Figure 10 reference 45, column 41 line 65 – column 42 line 4, column 44 lines 50-63, wherein a representation of the mapping is presented)

"and a data store object source code generator capable of generating object-oriented programming language source code for each data store object component of the object-oriented heterogeneous data store interface." (column 20 line 58 – column 21 line 13, wherein a federated query is associated with the individual datastores)

Chang does not specifically disclose an enterprise administrator group having the ability to grant, view, change, and remove access permissions for each data store user associated with an enterprise component.

Georgalas teaches an enterprise administrator group having the ability to grant, view, change, and remove access permissions for each data store user associated with an enterprise component (Figure 1, paragraphs 0056, 0057, 0058, 0075, 0076, 0084, 0099, 0101, wherein users can be assigned as administrators that control access and administrative policies for heterogeneous database access).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to combine Chang's method of searching multiple heterogeneous datastores with heterogeneous data types through a data model with Georgalas' method of assigning users to be configurators and administrators that can change access policies when accessing heterogeneous databases. This gives the user the ability to restrict and control access of heterogeneous databases to only trusted users. The motivation for doing so would be handle change in a system of heterogeneous databases (paragraph 0006)

5. Claims 15 and 24-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. ("Chang" US Patent 6,578,046) in view of Georgalas et al. (US Publication 2005/0216498 A1) and further in view of Tamboli et al. (US Patent 6,792,431 B2)

As per claim 15, Chang teaches "each query component specifies a subset of enterprise data objects;" (column 38 lines 18-41)

Chang does not teach "a get extensible markup language (XML) behavior; and a set from extensible markup language (XML) behavior; and the method further comprises obtaining an extensible markup language (XML) representation of the subset of enterprise data objects specified by the first query component with the get extensible markup language (XML) behavior of the first query component."

Tamboli teaches "a get extensible markup language (XML) behavior; and a set from extensible markup language (XML) behavior; and the method further comprises obtaining an extensible markup language (XML) representation of the subset of enterprise data objects specified by the first query component with the get extensible markup language (XML) behavior of the first query component." (column 10 lines 32-58, column 16 lines 12-38, wherein XML stylesheets map data between data objects and an XML representation).

It would have been obvious for one of ordinary skill in the art to combine Chang's system to search multiple heterogeneous datastores using different data types and Georgalas' method of assigning users to be configurators and administrators that can

change access policies when accessing heterogeneous databases with Tamboli's method of utilizing XML stylesheets to produce XML representations from databases with different formats . This gives the user the advantage of utilizing XML to map between data in heterogeneous datastores . The motivation for doing so would be to ease access to data across different structure types while avoiding the need to constantly go through laborious, expensive upgrading of the system (column 1 line 57 – column 2 line 11)

As per claim 24, Chang is disclosed as per claim 23 above. Chang does not teach "an extensible markup language (XML) data store object definition generator configured to generate an extensible markup language (XML) data store object definition from the graphical representation in accordance with an extensible markup language (XML) data store object definition schema."

Tamboli teaches "an extensible markup language (XML) data store object definition generator configured to generate an extensible markup language (XML) data store object definition from the graphical representation in accordance with an extensible markup language (XML) data store object definition schema." (column 10 lines 32-58, column 16 lines 12-38, wherein XML stylesheets map data between data objects and an XML representation).

It would have been obvious for one of ordinary skill in the art to combine Chang's system to search multiple heterogeneous datastores using different data types and Georgalas' method of assigning users to be configurators and administrators that can

change access policies when accessing heterogeneous databases with Tamboli's method of utilizing XML stylesheets to produce XML representations from databases with different formats . This gives the user the advantage of utilizing XML to map between data in heterogeneous datastores . The motivation for doing so would be to ease access to data across different structure types while avoiding the need to constantly go through laborious, expensive upgrading of the system (column 1 line 57 – column 2 line 11)

As per claim 25, Tamboli teaches "the data store object source code generator generates object-oriented programming language source code for each data store object component corresponding to the extensible markup language (XML) data store object definition generated from the graphical representation." (column 21 lines 41-53)

As per claim 26, Tamboli teaches "the extensible markup language (XML) data store object definition comprises at least one data store object definition element containing at least one data store object attribute definition element, and each data store object attribute definition element includes a defer property specifying that retrieval of the data store object attribute is deferrable." (column 21 line 54 – column 22 line 19)

As per claim 27, Chang teaches "at least one of said at least one data store object attribute definition element defines a data object attribute referencing a list of data store objects stored in said at least one data store;" (column 11 lines 48-55)

"and each data store object attribute definition element that defines the data object attribute referencing the list of data store objects further includes a schema path

property specifying, at least: a type of data store object in the list of data objects;" (column 11 lines 58-63)

"a first attribute of each data store object in the list of data objects;" (column 13 lines 42-59)

"a second attribute of the data store object corresponding to the data store object definition element containing the data store object attribute definition element;" (column 13 lines 60-67)

"and a relationship between the first attribute and the second attribute." (column 14 lines 33-60)

As per claim 28, Chang teaches "the schema path property specifies: more than one type of data store object;" (column 41 lines 11-16)

"and at least one relationship between attributes of each data store object." (column 39 lines 37-52, column 41 lines 11-16)

As per claim 29, Chang teaches teach "a query component;" (column 9 lines 45-53, column 12 line 36-67, "query evaluator")

"and a provider interface comprising a query component behavior specification specifying a query behavior with a query component parameter;" (column 17 line 47 – column 18 line 34)

"and further comprising, for each type of data store, a provider plug-in to the object-oriented heterogeneous data store interface, each provider plug-in comprising at least one provider component configured with a query behavior conforming to the query

component behavior specification of the provider interface." (column 9 lines 40-44, column 18 lines 37-43, column 38 line 66 – column 39 lines 35, column 38 lines 42-52)

As per claim 30, Chang teaches "for at least one provider plug-in, a corresponding data store object source code generator plug-in capable of generating data store objects for the type of data store associated with the provider plug-in." (column 20 line 58 – column 21 line 13)

As per claim 31, Chang teaches "the graphical representation of each data store object comprises a security policy designation." (column 29 lines 32-37, column 40 lines 30-38)

Response to Arguments

6. Applicant's arguments with respect to claims 1-31 in regards to 35 USC 102(e) have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fleming et al. (US Patent 6,523,035 B1)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANGELINO N. GORTAYO whose telephone number is (571)272-7204. The examiner can normally be reached on M-F 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim T. Vo can be reached on (571)272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dangelino N Gortayo/
Examiner, Art Unit 2168

/Tim T. Vo/
Supervisory Patent Examiner, Art Unit 2168

Dangelino N. Gortayo
Examiner

Tim T. Vo
SPE